

[0078]

Abstract

[0079]

A new apparatus and method designed to protect an interferometric fiber optic light source from weapons level radiation threat is provided. A fiber optic light source is configured to produce a light spectrum which has a mean wavelength which is substantially unaffected when exposed to weapon's level radiation threat. The fiber optic light source is configured to produce a light output with a mean wavelength in the range of 1520 nm to 1540 nm, and is preferably configured to produce a light output with mean wavelength of about 1532 nm. The fiber optic light comprises a pump laser and a length of doped fiber optic material through which light from the pump laser is directed. The length of fiber optic material has a configuration which produces a light output with a predetermined spectrum and mean wavelength. The length of fiber optic material will depend on the specific properties of the fiber, but with the preferred material, i.e. a length of Erbium Doped Fiber, the length of fiber would be in the range of about 8 to 15 meters, and preferably in the range of about 6 to 12 meters. In the practice of the present invention, light is generated in a wavelength useful in interferometric fiber optic gyroscope, by generating light in a predetermined wavelength range, filtering the light to produce the light in a wavelength range in which it is substantially unaffected by weapons level radiation threat, and directing the filtered light to an interferometric fiber optic gyroscope.